Army/Air Force Forum

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10 APR 02

Why the Army is Changing…

Just Cause

Desert Storm

Allied Force

Enduring Freedom

Initial Glimmerings that Battle is Changing

Digitized AWE NTC 94-07

Able Sentry

Restore Hope

TMD 95 & Strong Safety

Focused Dispatch AWE

Mobile Strike Force

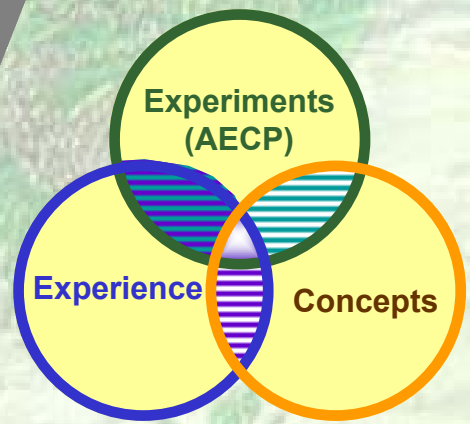
Warrior Focus JRTC 96-02

Restore Democracy

Atlantic Resolve 94

Force XXI Operations

Transformation



An Integrated Approach...

"Land Combat in the 21st Century: TRADOC"

The Emerging Strategic Environment

Somalia

East Timor

Elements of instability

- enhanced nationalism & rejection of the west
- ungoverned groups - criminal organizations
- widening gap between rich and poor
- ***readily available information technology***
- ***technological acceleration***
- unstable power balances
- environmental risks

The non-state warrior poses a problem because he does not fight by the rules of conventional warfare; his targets are not force-oriented…

Ref : TRADOC Pam 525-5

Afghanistan

Afghanistan

9-11

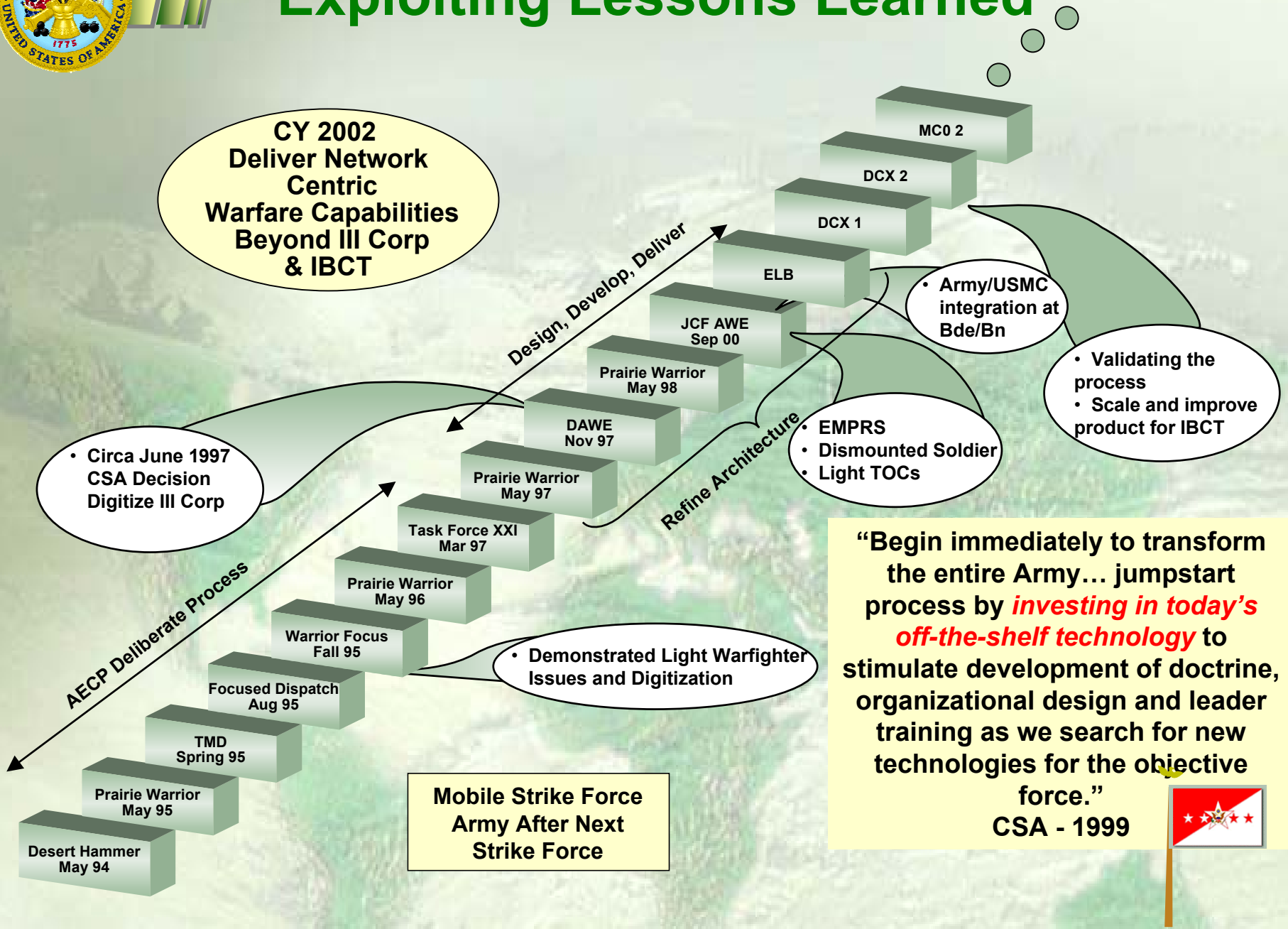
Afghanistan

9-11

From 1989-1999, there were 38 US military deployments … about once every 14 weeks

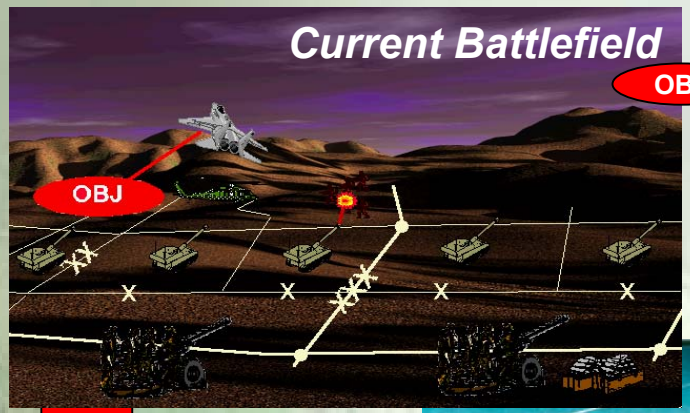
"The Army must be a strategically - responsive, full-spectrum force"

Exploiting Lessons Learned



"Begin immediately to transform the entire Army… jumpstart process by *investing in today's off-the-shelf technology* to stimulate development of doctrine, organizational design and leader training as we search for new technologies for the objective force."
CSA - 1999

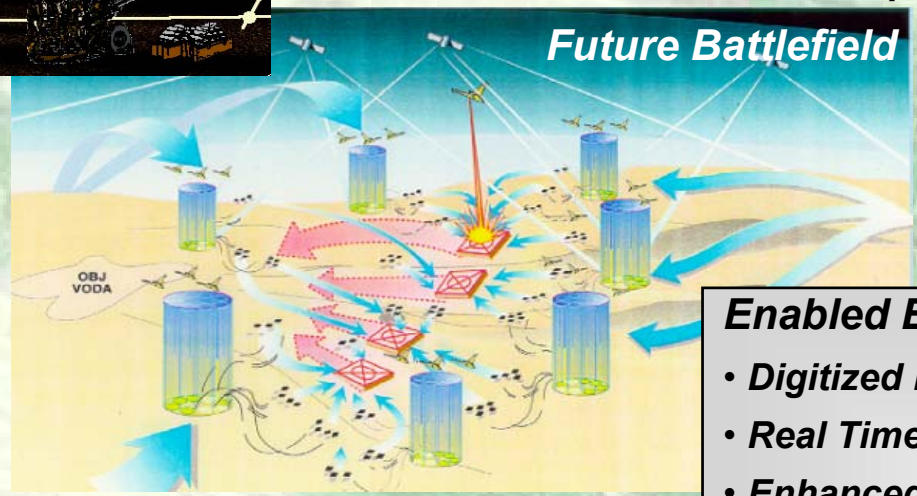
Force XXI Warfare



Army Of Excellence (AOE) Division

Operational Characteristics

- Hierarchical Force Structure
- Sequential Operations
- Linear battlefield (50kmx100km)
- Fixed Boundaries
- Sequential decision making



Force XXI Division

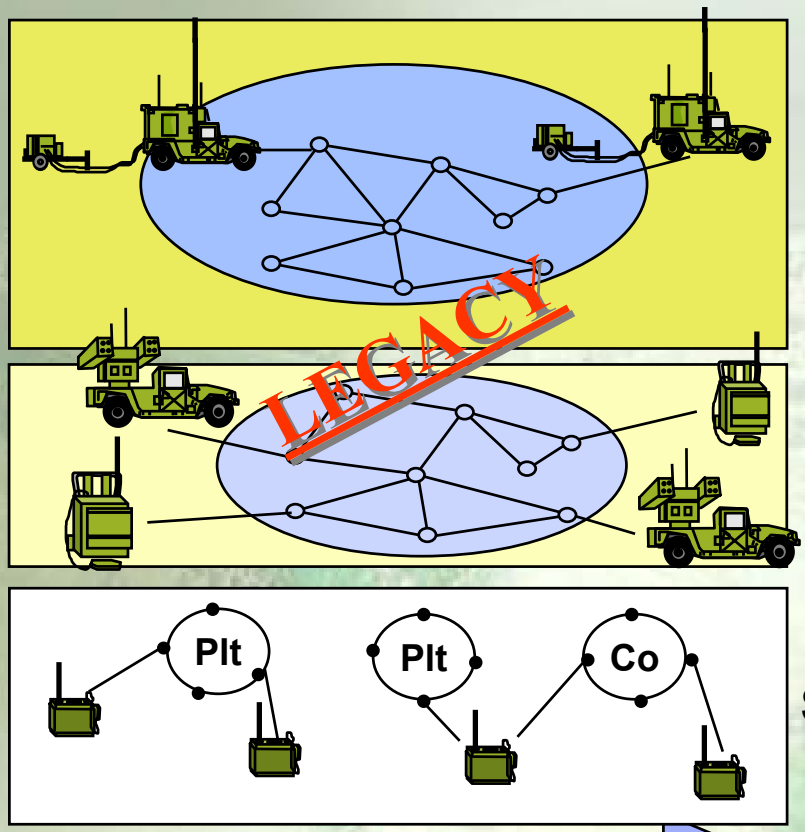
Operational Characteristics

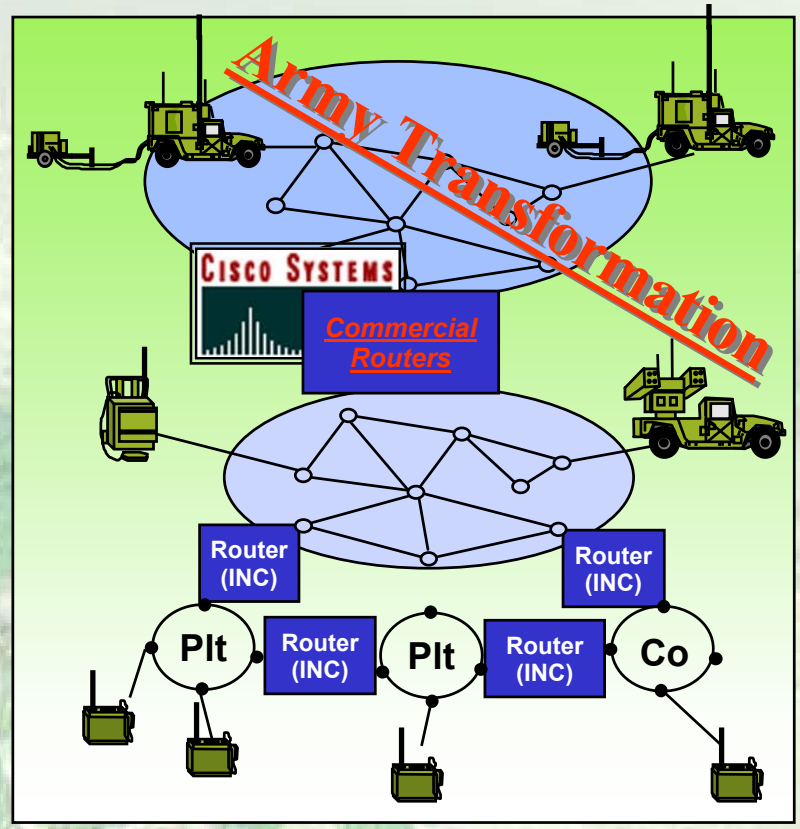
- Flattened Force Structure
- Simultaneous operations
- Non-Linear battlefield (120km+ x 200km+)
- Fluid Boundaries
- Parallel decision making

Enabled By….

- Digitized Platforms
- Real Time Situational Awareness
- Enhanced C2 Systems
- Common Tactical Picture
- Common Look and Feel Software
- High Capacity Communications
- Tactical Operations Centers
- Joint / Combined Interoperability

Technologies Enabling Implementation of NCW





Then

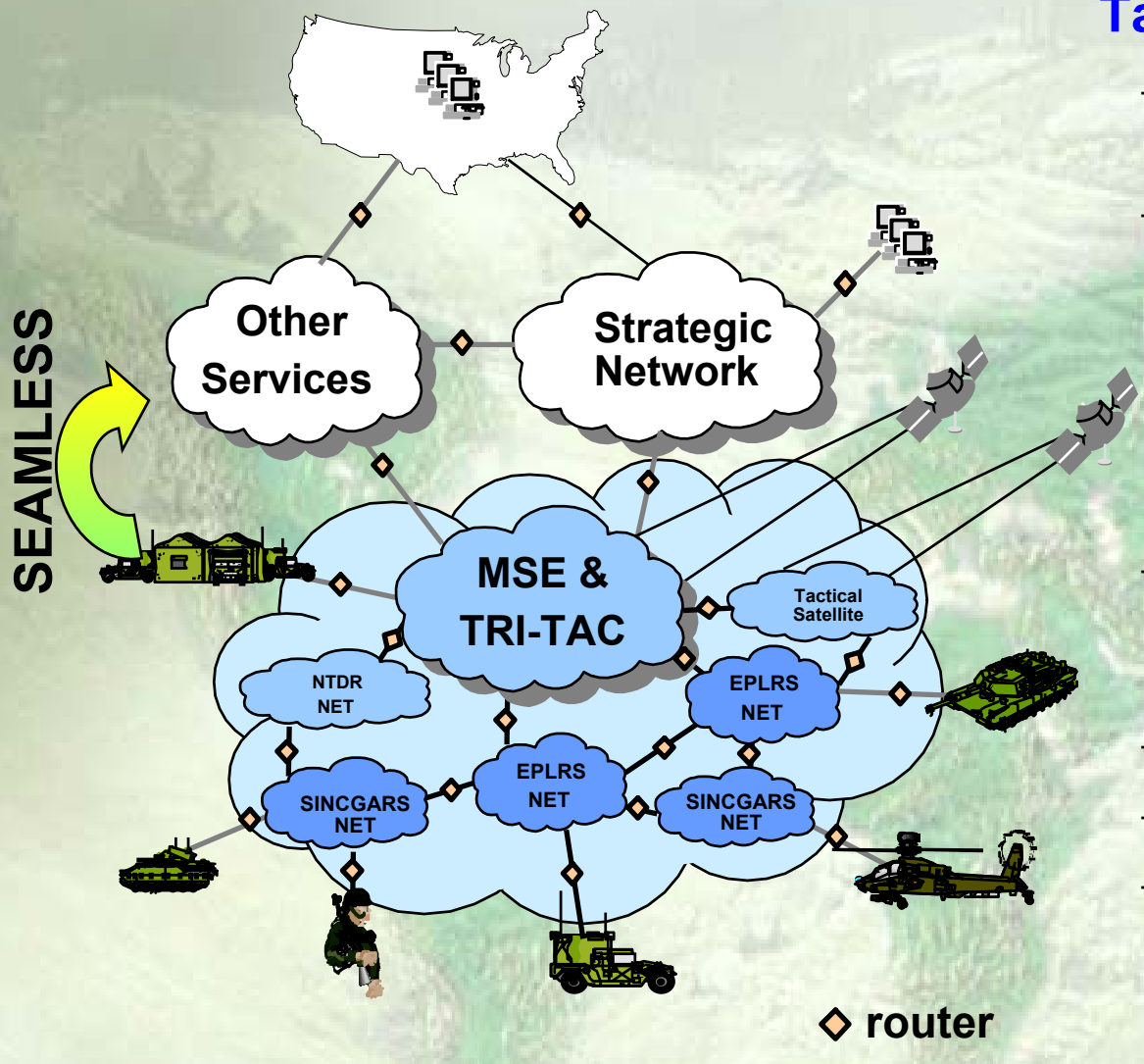
- Three *separate* intranets and networks, with *little interaction*
- Required *manual* relay of information

Evolving with Commercial Standards!

Force XXI

- *One Army Intranet* - using Commerical Routers
  - SINCGARS upgraded with "data capabilities"
  - EPLRS "increased throughput"
  - MSE "Commercial ATM capable"

"Seamless" Communications - the Backbone for NCW



Tactical

- Communications infrastructure in Theater
- Extends the architecture adopted by DISA and the Army and other services (e.g., SIPRNET, NIPRNET, IT21 Intranet)

Internet-based

- Based on the standards and architecture used in the Internet
- Internet Protocol (IP) suite
- Router-based architecture
- De facto commercial network standards and products

Central Technical Support Facility

Fort Hood, Texas December 1999

Close Combat Tactical Trainer Facility

PEOs
PMs
TEXCOM
TRADOC
STRICOM
DSAs
EPG
TRAC
NSC

Aviation & Missile Technical Integration Facility

Reconfigurable Scaleable TOC Facility

Install Yard

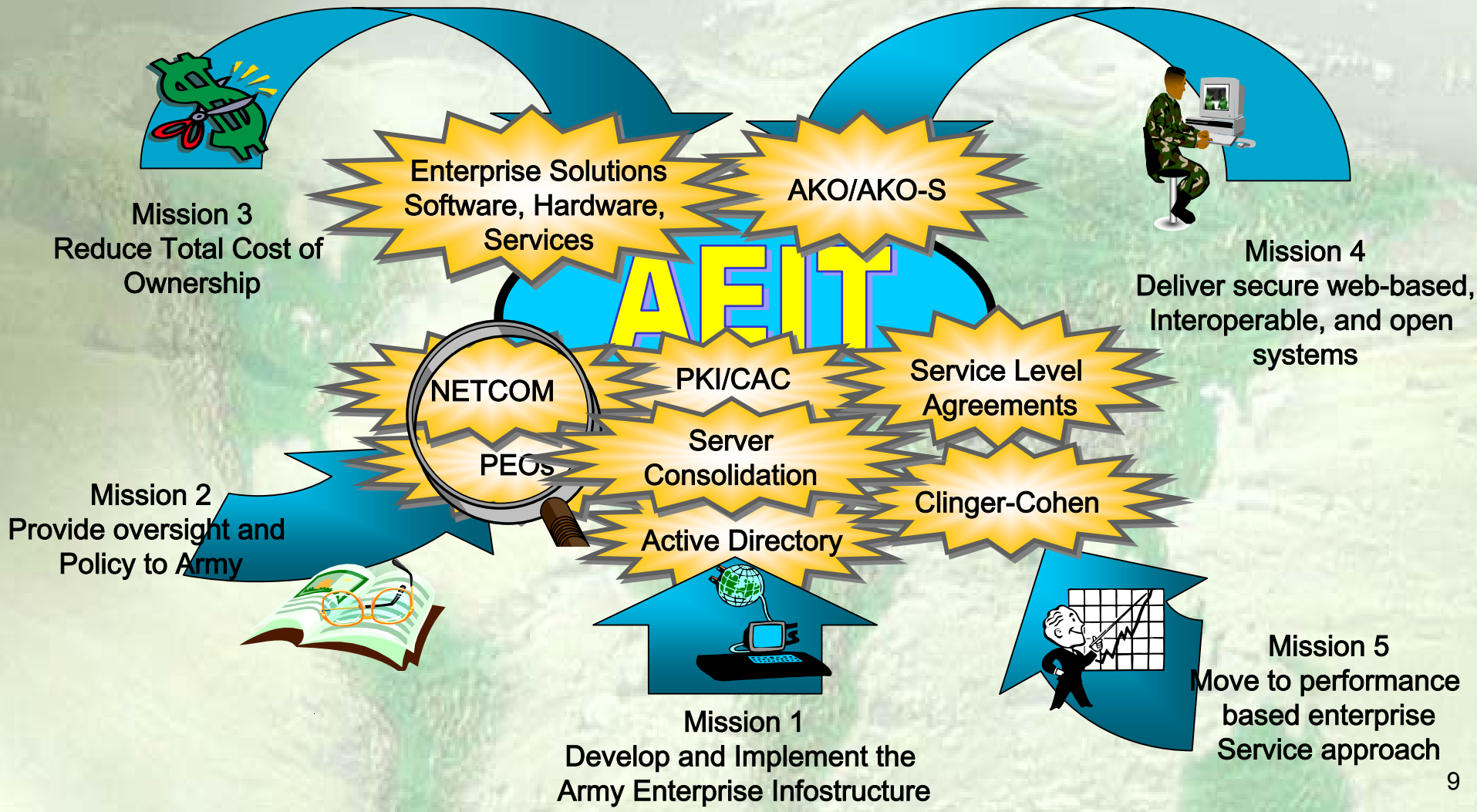
Achieving Service Joint & Coalition Interoperability

"Brings Together in one Place"

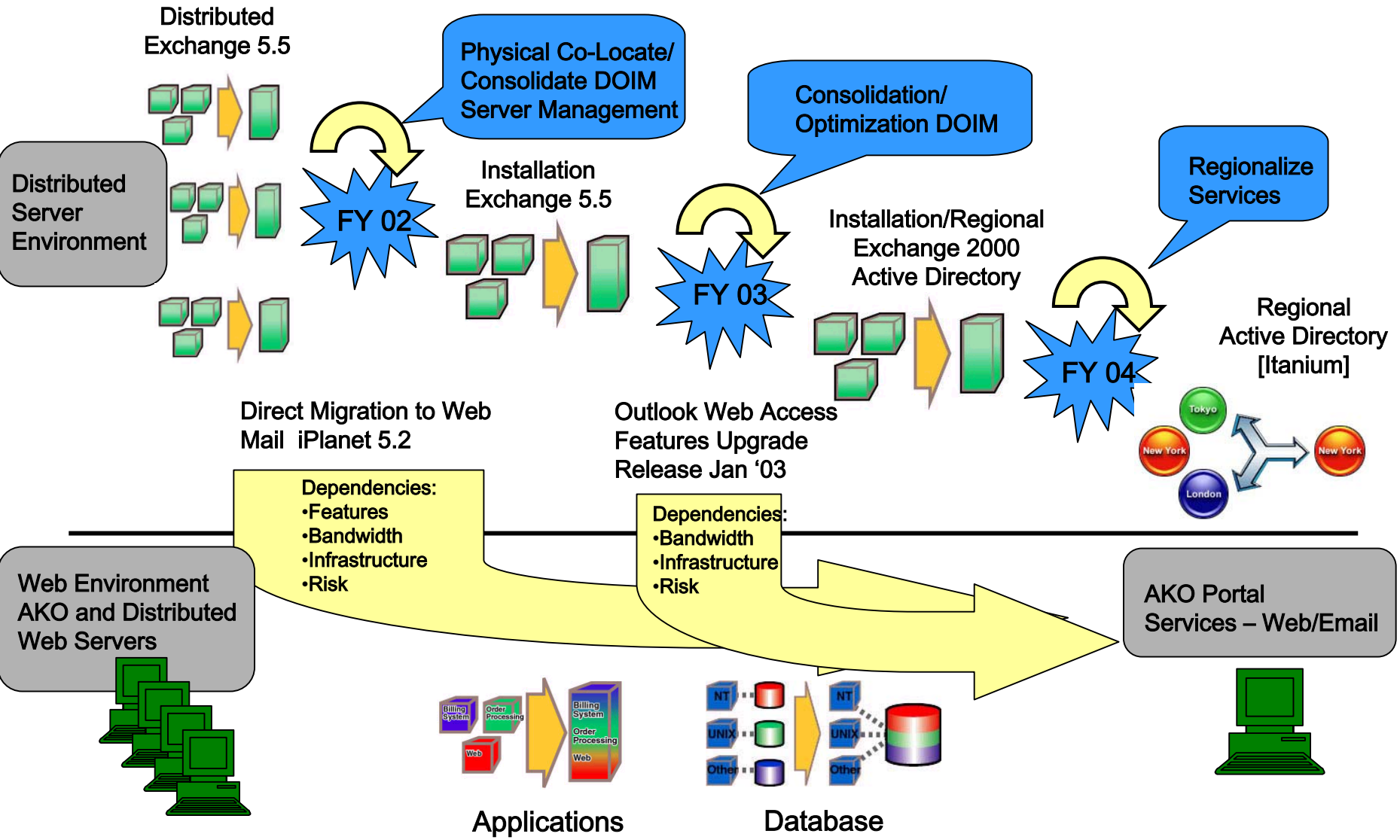
- Soldiers
- Industry
  - Software Programmers
  - Technicians
- Test Community
- Trainers
- Warfighter Systems

Army Enterprise Infostructure Transformation

"Transform the Army Enterprise Infostructure to provide decision dominance for the knowledge-enabled warfighters and business stewards"



Enterprise Email and Web Computing Services Strategy* (Unclassified Environment)



*Concept strategy developed Active Directory/Web summit 19-21 Mar 02

Army's Knowledge Portals

Army Homepage (Internet)

- *Army's Public Web Site(s)*
- *Unrestricted Access*
- *Unclassified Content*

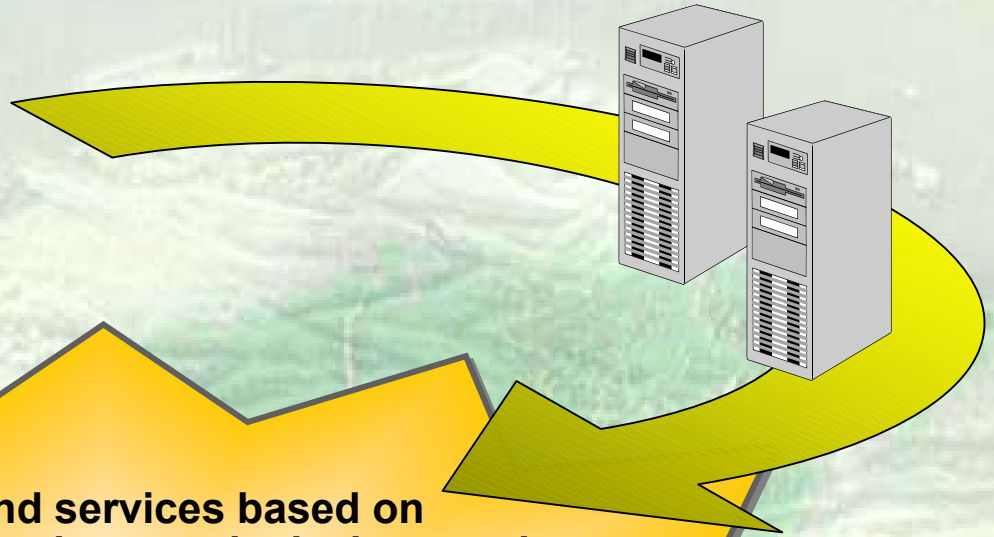
AKO – Unclassified (NIPRNet)

- *Sensitive But Unclassified Content*
- *128-Bit Security Encryption*
- *PKI Enabled Web Mail (Planned)*

AKO – Secret (SIPRNet)

- *Opns & Intel Community*
- *Secure Web Mail*
- *Secure Instant Messaging*

Server Consolidation Objectives



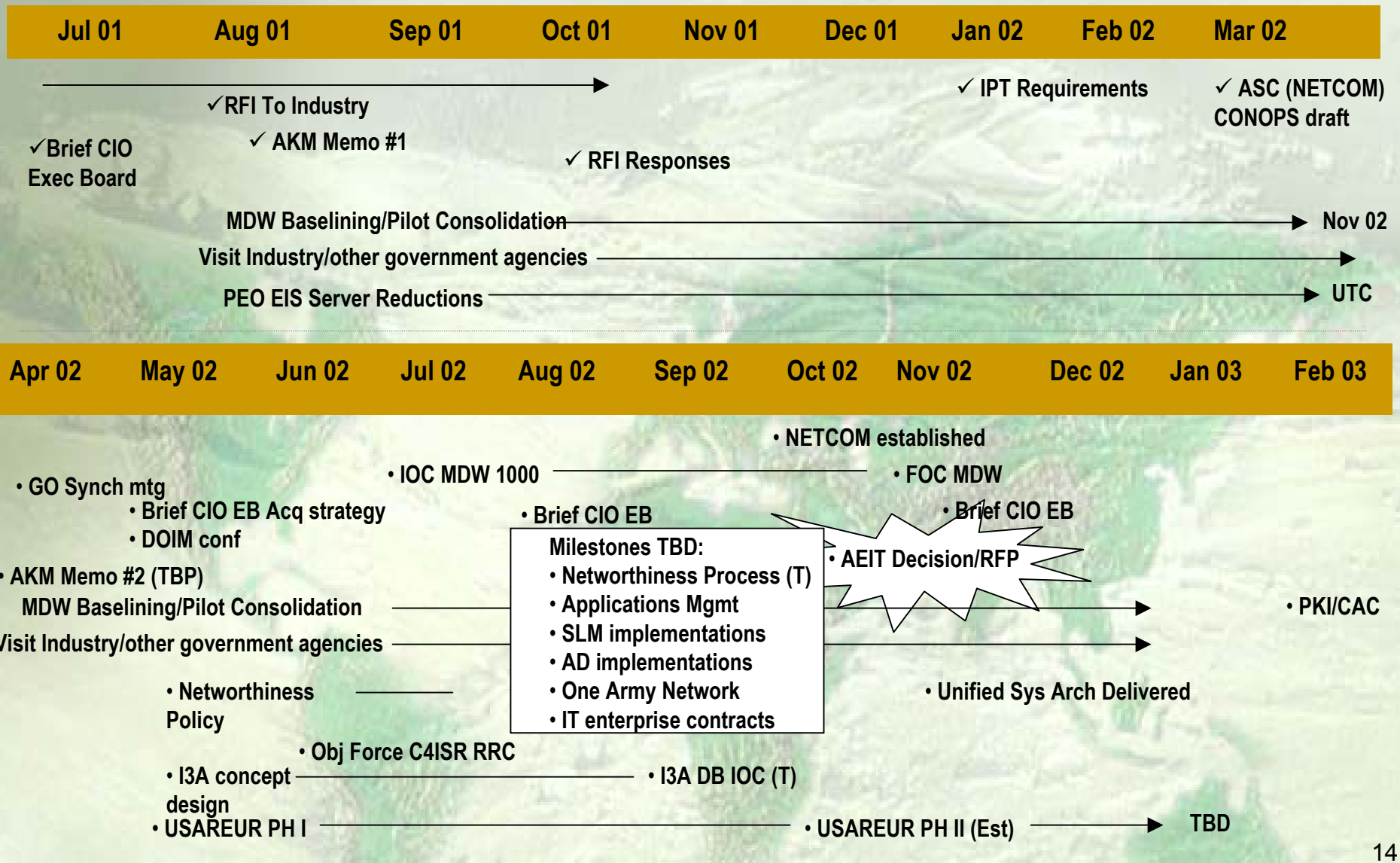
- ✓ Consolidate servers and services based on infrastructure, user locations, and mission requirements
- ✓ Maximize consolidation consistent with mission requirements and survivability
- ✓ Improve security and reliability of IT services
- ✓ Support implementation of Windows 2000 and Active Directory
- ✓ Maintain consistent levels of service and user support
- ✓ Reduce TCO for IT

Examples of Selected Server Consolidations

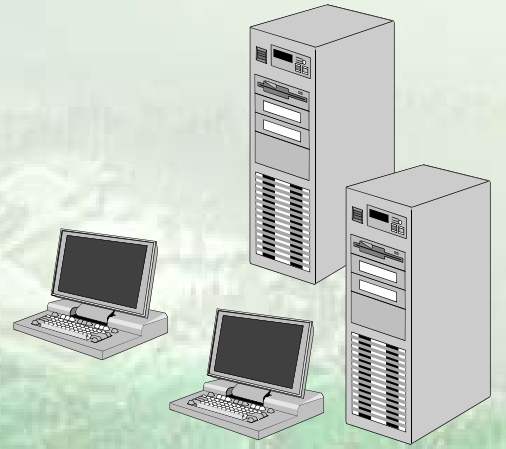
	Initial No. of Servers	No. of Servers (Oct 01)	No. of Servers (Infostructure) (Oct 02)	Target Servers Eliminated
HQDA	690	650	483	207
MDW	347	-	243	104
5th SIG Command	213	-	73	140
USAREUR	107	-	15	92
ASC	471	286	200	271
DAIG	239	-	< 30	>209
DCSPER/G1	4500	43	1	4499

* 6300 – initial estimate of Microsoft Exchange servers only; additional servers (data, mail, file, etc.) are being identified and eliminated simultaneously

AEIT Timeline/Milestones Schedule



MDW Implementation



Concept for Implementation:

- **Implement Windows 2000 with Active Directory**
- **Migrate to Exchange 2000**
- **Server Consolidation**
- **Centralized Help Desk**
- **PKI/CAC Implementation**
- **Centralized Network Operating Center (NOC)**
- **Enterprise Management (CONOPS/Policy)**
- **Reserve and National Guard Participation**

Enterprise solution, 1,000 desktops, Scale up to full 10,000 users

Three contracts for Enterprise Management, Integration Services, and Hardware

Phase I – Fort Belvoir by July 2002 1,000 desktops
Phase II – MDW by November 2002 for remaining MDW

USAREUR Implementation

CG, USAREUR supports theater server consolidation. Requested funding for HQ, USAREUR server consolidation (looking now at 7th ATC vice HQ).

Task Order Request (TOR) for application on inplace IDIQ contracts. Phase I effort to baseline, plan, architect, and develop implementation plan for:

- **Service managed approach**
- **Server consolidation (email, web, file and print)**
- **Enterprise network management CONOPS**
- **Resource and Business Case assessments**

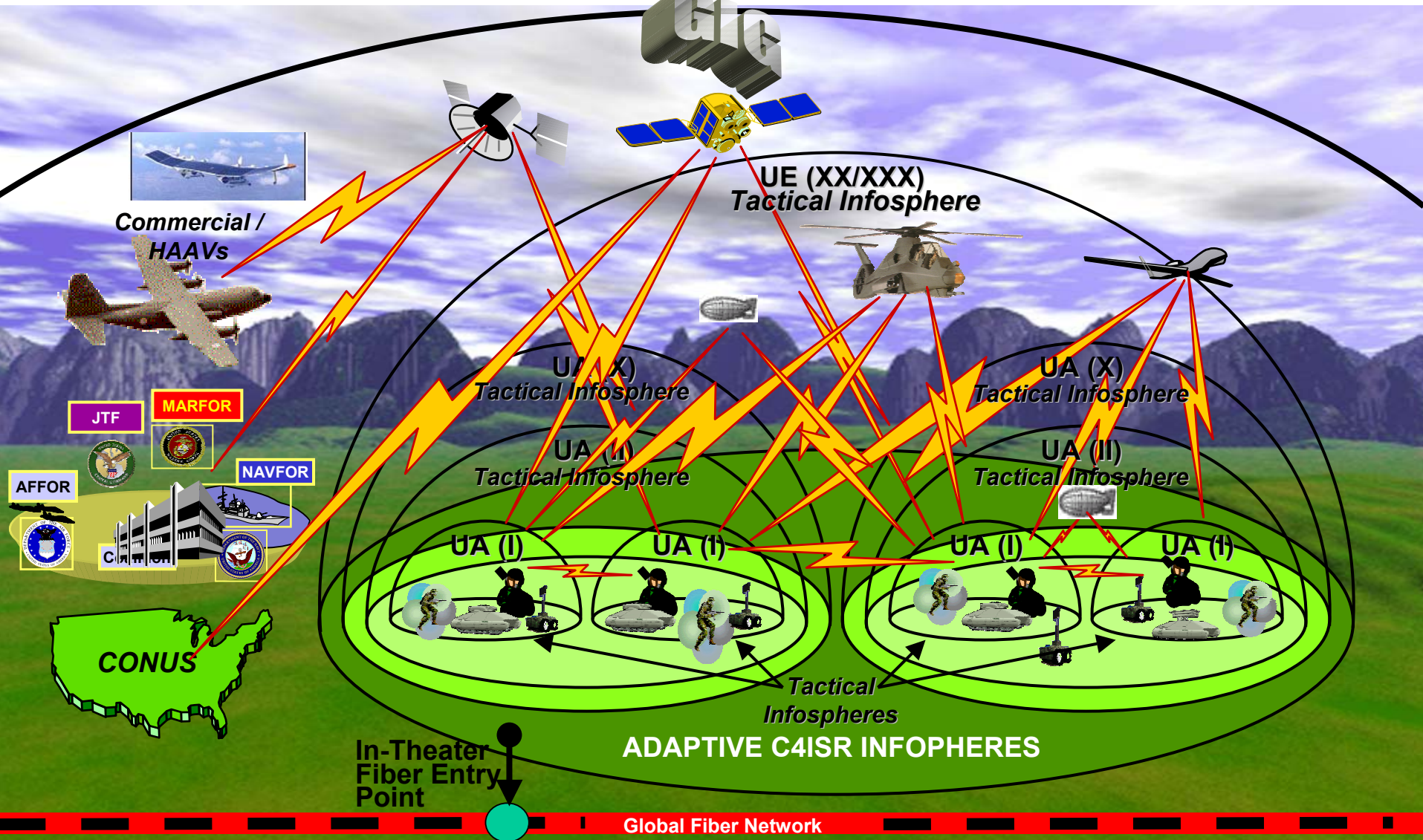
Phase II follows from Phase I deliverable product – award of TOR for execution.

WIN-T/JTRS Network Concept

"The Army's Objective Force Communications System"

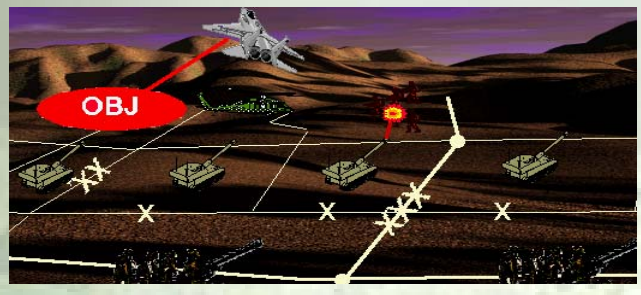
WIN-T will be a framework, which will set standards and protocols for OF infospheres, to bring all information transporters into a larger structure.

JTRS provides the Seamless Networking from FCS/Individual Soldier into the WIN-T and Reachback



CURRENT

MSE/TRI-TAC

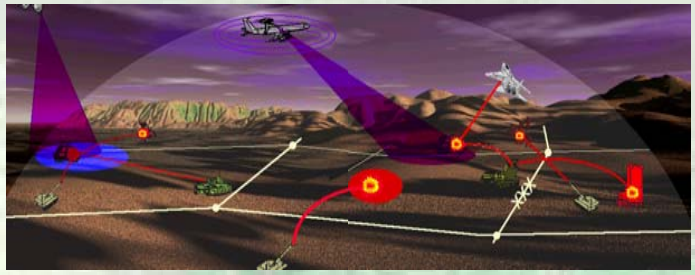


Cold-War Linear Battlefield
Smaller Area of Operations

- Force intensive, rigid backbone *(Grid-Centric Architecture)*
- Deployed *Theater to Brigade*
- MSE extends *Single Network Thread* to stationary Tactical Operations Centers
- *Proprietary* Voice Network
- *Minimal Data* Capability
- Large Footprint
- Limited Mobility

FUTURE

WIN-Tactical



Non-linear Battlefield
Expanded Area of Operations

- Network expands and contracts with the fight *(Network-Centric Architecture)*
- *Deployed Sustaining Base to UE/UA*
- *Broadband On-The-Move* (Satellite/Terrestrial)
- JTRS *Compliance*
- *Commercial-Based, Open Architecture*
- *Reduced* Footprint and Manpower

Planned Technology Insertion

Enabled by Space Systems

What is a JTRS?

Re-usable, portable, capability set independent of hardware

Legacy Radios

SINCGARS ($8 - 18K)

EPLRS ($29K)

MIDS/Link 16 ($200K)

Spit Fire/DAMA ($25K)

OTHERS…
HQ, VHF, HF, etc.,

JTRS…Radio and Waveforms	Notional Implementation

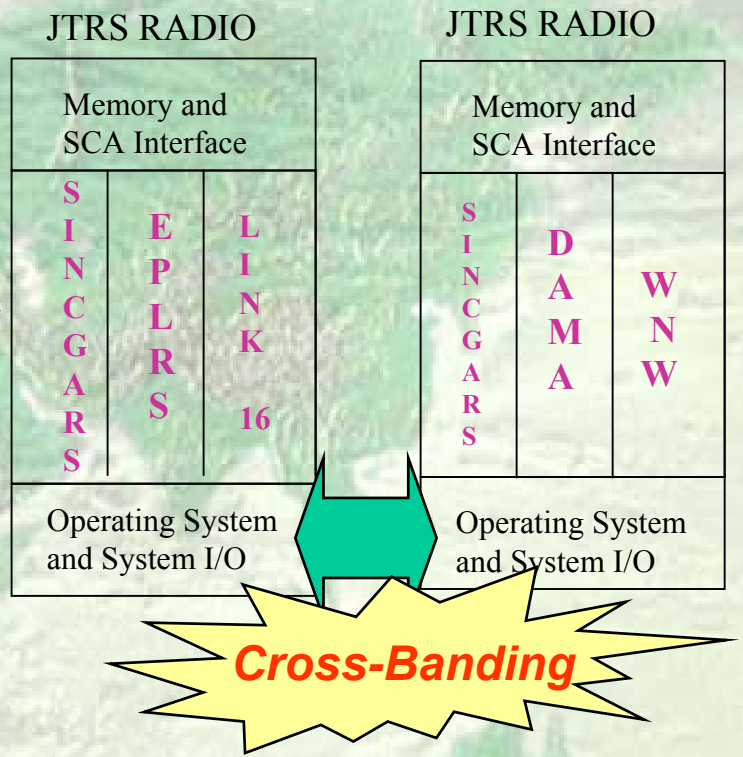
Single Radio Replaces Many …

Waveforms:

SINCGARS
EPLRS
DAMA
HF SSB
HAVE QUICK
LINK 16
VHF ATC
WNW

-SCA Compliant
-Interoperability
-Cross-banding
-Networked
-New functionality in WNW
-Full functionality of legacy Radios
-Protocols/Standards
-Flexibility/Independence
-Waveform Storage

Notional 6 Channel JTR Set



"TRADOC NOTIONAL"

ABCS Continued Development w/ Key Decision Points

1 2 3 4

FY 02 FY05 FY08 FY11 FY14 FY30

V6.3 V7.0 V8.0 V9.0 V10.0

GCCS – A
MCS
CSSCS
FBCB2
IMETS
ASAS
DTSS
TAIS
AFATDS
AMDPCS

GCCS – A
MCS
CSSCS
FBCB2
IMETS
ASAS
DTSS
TAIS
AFATDS
AMDPCS

Maneuver → *Maneuver* → *Maneuver*

FBCB2 → FBCB2

IMETS → IMETS

ASAS → ASAS

DTSS → DTSS

Information Superiority

TAIS

AFATDS → *Effects* → *Effects*

AMDPCS

Legacy and Interim Force

OBJ Force

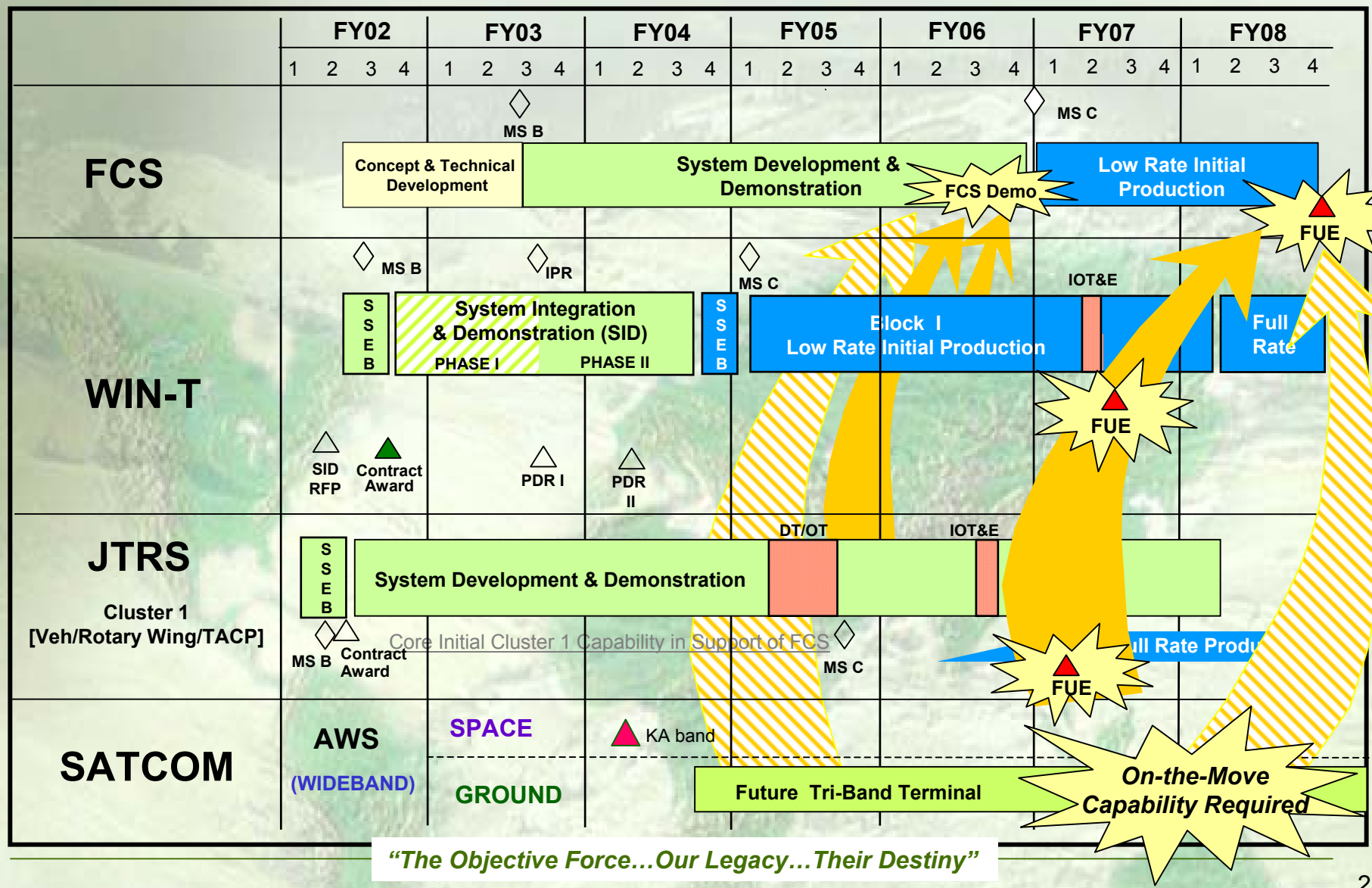
FCS Development

Baseline

Supporting COMMS Network

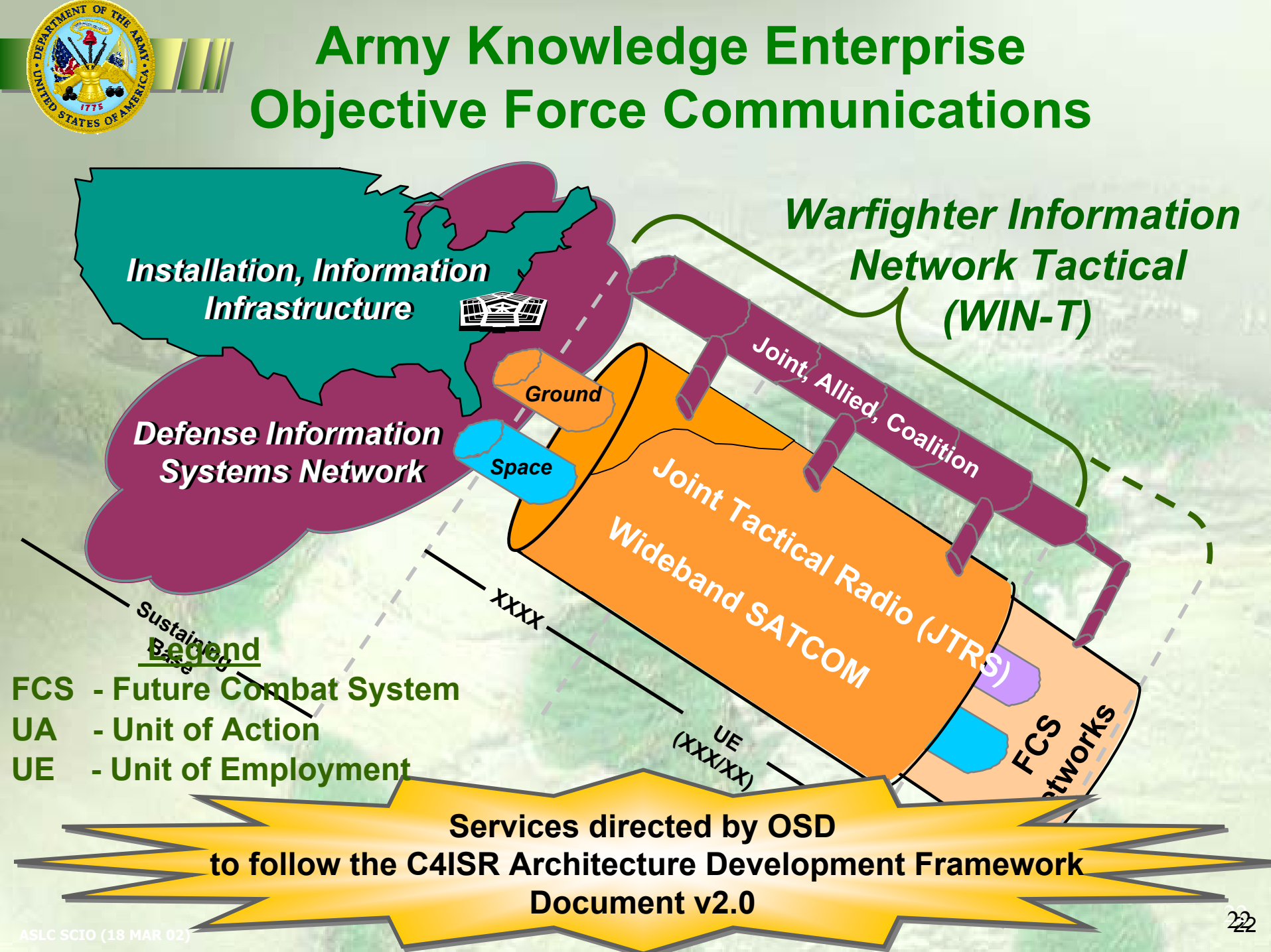
A <u>phased</u> migration approach to integrated applications tailored to task, purpose, and echelon supported by a common hardware suite (family). The resultant system will be functional in all situations and scenarios (garrison, field & combat).

Tactical Communications Alignment



"The Objective Force…Our Legacy…Their Destiny"

Army Knowledge Enterprise
Objective Force Communications



Services directed by OSD to follow the C4ISR Architecture Development Framework Document v2.0

Final Thoughts . . .

- ✓ Reach back to sanctuary is now doable, but . . .
- ➢ reach, bandwidth, and Joint and Combined interoperability requirements growing as new capabilities are brought online:
  - WLMP: Warfighter Logistics Modernization Program
  - JLWI: Joint Logistics Warfighter Information System
  - AKO: Army Knowledge Online
- ✓ To make the Army relevant and interoperable, growth in commercial off-the shelf (COTS) and Theater-specific solutions:

  ARCENT (CENTCOM) is using Promina IDNXs
  USARPAC (PACOM) is using USC-60A FLTSAT Tri-Band terminals and SSS base band node (BBN) modifications
- ✓ Progress in evolving capabilities benchmarked around a Cold War fixed Major Theater of War (MTW) scenario versus to a full spectrum operations (e.g., Homeland Defense, Small Scale Contingencies, Asymetrix Warfare, and Disaster Relief)